

## APPENDIX D

### DEPARTMENT/FACILITY QUESTIONNAIRE

National Science Foundation and National Institutes of Health  
**National Survey of Academic Research Instruments and Instrumentation Needs**

**FY 1993 DEPARTMENT/FACILITY QUESTIONNAIRE**

**BACKGROUND AND PURPOSE**

This Congressionally-mandated survey is vital to provide the National Science Foundation (NSF), the National Institutes of Health (NIH), and other Federal agencies with data to help set appropriate program priorities and equipment funding levels. In addition, special Federal research equipment programs—such as the NSF Academic Research Infrastructure Program, and the NIH Small Instrumentation Grant Program—were established to help meet the academic instrumentation needs that were identified by this survey in the past.

**Institution** \_\_\_\_\_

**Department/Facility** \_\_\_\_\_

**This study is authorized by law (P.L. 96-44).** Although you are not required to respond, your cooperation is needed to make the results comprehensive, accurate, and timely. Information gathered in this survey will be primarily used for developing statistical summaries. Information from individual institutions may be made available to policymakers and qualified researchers, with the permission of the Presidents of these institutions.

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**INSTRUCTIONS**

- (1) Items 1-6 (Part A) are factual in nature. Informed estimates are acceptable whenever precise information is not available from existing sources. This section may be delegated to any person or persons who can provide the requested data.
- (2) Items 7-13 (Part B) call for judgments about equipment-related research needs and priorities of the department (or facility) as a whole. **These questions should be answered by the department chairperson or facility director**, or by a designee who is knowledgeable about equipment needs.
- (3) Please report data for your institution's 1993 Fiscal Year.
- (4) PLEASE RETURN THIS FORM TO YOUR INSTITUTION'S SURVEY COORDINATOR. Do not mail the form to NSF, NIH, or Quantum Research Corporation (QRC).

**For assistance with this questionnaire that cannot be provided by your survey coordinator please contact Atessa Shahmirzadi or Luz Tatum of QRC at (800) 369-0896.**

It is estimated that the response to this survey will require an average of one hour. If you wish to comment on this burden, please contact Herman Fleming, Reports Clearance Officer, NSF, at (703) 306-1243, and the Office of Management and Budget, Paperwork Reduction Project (OMB 3145-0067), Washington, D.C. 20503.

## Part A. Descriptive Information and Instrumentation-Related Expenditures

NOTE: Informed estimates are acceptable whenever precise information is not available from existing sources. This section may be delegated to any person or persons who can provide the requested data.

1. This is (Circle One):

An academic department<sup>1</sup> ..... 1

A non-departmental or interdepartmental  
research facility, center, or institute<sup>1</sup> ..... 2

NOTE: For purposes of this questionnaire, the word "unit" in the following questions refers to your particular department, non-departmental or interdepartmental research facility, center, or institute.

CHECK BOX if  
response is an ESTIMATE

2. Number (headcount) of FULL-TIME faculty members<sup>2</sup>  
in your unit: \_\_\_\_\_

☐

3. Number (headcount) of FULL-TIME faculty members<sup>2</sup>  
in your unit who are participating in separately  
budgeted research projects: \_\_\_\_\_

☐

4. Does your unit have any scientific research  
equipment or equipment system<sup>3</sup> (whether purchased  
or otherwise acquired) with an ORIGINAL COST  
of \$20,000 or more? (Circle One)

Yes ..... 1 (CONTINUE with item 5a)

No ..... 2 (SKIP to item 14)

<sup>1</sup> "Academic department" is a degree-granting unit, whereas a non-departmental unit is a non-degree granting unit.

<sup>2</sup> "Faculty member" includes tenured, non-tenured, teaching, and visiting faculty and researchers of faculty-equivalent rank; it does NOT include postdoctorates.

<sup>3</sup> "Scientific Research Equipment" is any item (or interrelated collection of items comprising a system) of nonexpendable tangible property or software, having a useful life of more than two years and a cost of \$500 or more, which is wholly or in part used for research. It includes all scientific research equipment acquired from all sources—Federal, State, the institution's own funds, industry, etc. It also includes donated equipment and any on permanent loan.

5a. ESTIMATED total expenditures in this unit for purchase/acquisition of scientific research equipment<sup>1</sup> or equipment systems DURING THE INSTITUTION'S 1993 FISCAL YEAR:

\$ \_\_\_\_\_

5b. ESTIMATED proportion of total expenditures for equipment in FY 1993 from each of the following sources:

Funding Source	Percent (Estimate)
<b>Federal</b>	
1. National Science Foundation	_____
2. National Institutes of Health	_____
3. Department of Defense	_____
4. Department of Energy	_____
5. Other Federal sources <sup>2</sup>	_____
<b>Non-Federal</b>	
6. Institution or unit funds	_____
7. State grant or appropriation	_____
8. Industry	_____
9. Other non-Federal sources (including private, nonprofit foundations, gifts/donations, bonds)	_____
<b>TOTAL</b>	<b>100%</b>

6. FY 1993 expenditures for maintenance/repair and operation of scientific research equipment in this unit: **(Do not include fringe benefits or overhead costs.)**

**CHECK BOX if  
response is an ESTIMATE**

<b>Maintenance/Repair Costs:</b> <sup>3</sup>	\$ _____	<input type="checkbox"/>
<b>Operating Costs:</b> <sup>4</sup>	\$ _____	<input type="checkbox"/>
<b>TOTAL</b>	\$ _____	<input type="checkbox"/>

<sup>1</sup> "Scientific Research Equipment" is any item (or interrelated collection of items comprising a system) of nonexpendable tangible property or software, having a useful life of more than two years and a cost of \$500 or more, which is wholly or in part used for research. Include all scientific research equipment acquired from all sources—Federal, State, the institution's own funds, industry, etc. Also include any expenditures connected with equipment that is donated or on permanent loan.

<sup>2</sup> Federal sources include: Departments of Agriculture, Commerce, Education, Health and Human Services other than NIH, Housing and Urban Development, Interior, Justice, Labor, and Veterans Affairs; and the following agencies: Environmental Protection Agency (EPA), the Nuclear Regulatory Commission (NRC), and the National Aeronautics and Space Administration (NASA).

<sup>3</sup> Maintenance/Repair Costs include maintenance agreements, service contract costs, salaries of department- or institution-provided maintenance/repair personnel, and costs of supplies, equipment, and facilities for servicing research instruments in this unit.

<sup>4</sup> Operating Costs include salaries for technicians or other personnel paid to operate research equipment, and costs of supplies and materials used in operating the equipment.

## Part B. Adequacy of and Need for Research Equipment

NOTE: We suggest that these questions be answered by the department chairperson, or facility director, or by a designee who is knowledgeable about equipment needs. Circle the number on the rating scale that best describes the adequacy and need of your department's research equipment. We realize that some instruments in your unit are more adequate to meet your needs than others; nevertheless, please CIRCLE on the rating scales your general impression of the equipment as a WHOLE.

- 7a. The overall capability of the research equipment in my unit to enable existing faculty investigators to pursue their major research interests is:

Excellent		Adequate		Poor
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>

- 7b. If your response in Question 7a above was 4 or 5, what would be the estimated cost to acquire sufficient research equipment that would fully support your existing faculty?

\$ \_\_\_\_\_ (estimated)

8. Over the past two years, the needs for research equipment in my unit have:

Substantially Increased		Remained About the Same		Substantially Decreased
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>

9. The maintenance/repair of the research equipment in my unit is:

Excellent		Adequate		Poor
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>

10. The availability of resources to operate current equipment in my unit is:

Excellent		Adequate		Poor
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>

11. Please indicate below the three pieces of equipment, costing \$20,000 or more (including the cost of accessories), that are most needed to bring your unit's research equipment up to your faculty's full capabilities.

Using the taxonomy listed below, please choose the code number of the equipment category that most nearly describes the desired equipment, and write those numbers in the three spaces below. In addition to identifying the equipment, please estimate its costs and indicate whether its primary purpose is to (1) replace an existing item; (2) expand capacity—i.e., more copies of existing equipment; or (3) upgrade capabilities—i.e., perform experiments that you cannot do now. **Please list in priority order beginning with priority No. 1.**

☐ **This unit does not need any additional pieces of equipment in this price range. (SKIP to Question 12).**

Item Code Number (From the list below)	Approximate Cost per Item	Reason Needed
1. _____	\$ _____	Replace existing instrument ..... 1 Expand capacity ..... 2 Upgrade capabilities ..... 3
2. _____	\$ _____	Replace existing instrument ..... 1 Expand capacity ..... 2 Upgrade capabilities ..... 3
3. _____	\$ _____	Replace existing instrument ..... 1 Expand capacity ..... 2 Upgrade capabilities ..... 3

#### CODE

##### COMPUTERS AND DATA HANDLING

- 01 Graphics/Computer Assisted Design/Imaging Computer Systems
- 02 Other Computer Systems—With purchase price of \$50,000 and more
- 03 Other Computer Systems/Components—With purchase price of less than \$50,000

##### CHROMATOGRAPHS AND SPECTROMETERS

- 04 Electron/Auger/Ion Scattering
- 05 Gas/Liquid Chromatograph
- 06 Electron Spectroscopy/Photo Induced Emission Elemental Analyzer
- 07 NMR/EPR Spectrometer
- 08 Ultraviolet/Visible/Infrared Spectrophotometer
- 09 X-Ray Diffraction Systems
- 10 Chromatographs and Elemental Analyzers
- 11 Other Spectroscopy Equipment

##### MICROSCOPY EQUIPMENT

- 12 Electron Microscopes
- 13 Other Microscopy Equipment

##### MISCELLANEOUS

- 14 Cell Sorters/Counters, Cytometers
- 15 Centrifuges and Accessories
- 16 DNA/Protein Synthesizers/Sequencers/Analyzers
- 17 Growth/Environmental Chambers
- 18 Scintillation/Gamma Radiation/Counters/Detectors
- 19 Electronics Equipment (Cameras, etc.)
- 20 Temperature/Pressure Control/Measurement Equipment
- 21 Lasers and Optical Equipment
- 22 Robots, Manufacturing Machines
- 23 Major Prototype Equipment (Telescopes/Astronomical Instrument Systems, Ships, Planes, Nuclear Reactors, Wind Tunnels, MBE Systems, Other Major Systems)
- 24 Other, not elsewhere classified

12. If increased Federal funding of research equipment or equipment systems were possible, indicate below the **price-range** of the equipment that would be most beneficial to faculty investigators in your unit.

(Circle One)	Under \$10,000	1
	\$10,000-19,999	2
	\$20,000-49,999	3
	\$50,000-99,999	4
	\$100,000-499,999	5
	\$500,000-999,999	6
	\$1,000,000 and over	7

13. Are there any important subject areas (pharmacokinetics, genetic engineering, superconductivity, etc.,) in which investigators in this department (or facility) are unable to perform critical experiments in their areas of research interest due to lack of needed equipment? **(Circle One)**

Yes ..... 1  
No ..... 2

14. Thank you for completing the questionnaire. Please indicate the total amount of time required to complete this form.

Time required to complete this form:

\_\_\_\_\_  
Hours      Minutes

Please indicate the name, title, and telephone number(s) of the person(s) who provided the information in Part A and Part B. PLEASE PRINT OR TYPE.

**Part A**

Name \_\_\_\_\_

Title \_\_\_\_\_

Telephone No. (    ) \_\_\_\_\_ FAX (    ) \_\_\_\_\_

**Part B (if different from above)**

Name \_\_\_\_\_

Title \_\_\_\_\_

Telephone No. (    ) \_\_\_\_\_ FAX (    ) \_\_\_\_\_